Department of Energy
Golden Field Office
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DOE/EA-1859

FINDING OF NO SIGNIFICANT IMPACT
KIRKWOOD COMMUNITY COLLEGE WIND TURBIN PROJECT

AGENCY: U.S. Department of energy, Golden Field Office

ACTION: Finding of No Significant Impact (FONSI)

SUMMARY: The U.S. Department of Energy (DOE) has provided Federal funding to the Iowa State Energy Office (ISEO) under the State Energy Program (SEP). ISEO is proposing to provide $1,050,000 of its SEP funds to Kirkwood Community College (College) located in Cedar Rapids, Iowa, which would use these funds to purchase equipment for one 2.5-megawatt wind turbine. The proposed wind turbine project is expected to offset an average of more than 35 percent of the College's electrical demand from nonrenewable energy with renewable wind power production. DOE's Proposed Action is to authorize the expenditure of Federal funding under SEP to purchase equipment for the proposed Wind Turbine Project.

All discussion, analysis, and findings in relation to the potential impacts of construction, operation, and decommissioning of the project, including applicant-committed measures, are contained in the Final Environmental Assessment (EA). The Final EA is hereby incorporated by reference.

DOE prepared the EA and this FONSI in accordance with the *National Environmental Policy Act of 1969* (NEPA), the Council on Environmental Quality regulations for implementing NEPA (40 CFR Parts 1500 to 1508), and DOE NEPA regulations (10 CFR Part 1021).

ENVIRONMENTAL IMPACTS: The Final EA examined the potential environmental impacts of the Proposed Action and a No-Action Alternative. Under the No-Action Alternative, DOE would not authorize the use of SEP funds for the Wind Energy Project, which DOE assumes for purposes of the EA would not proceed without SEP funding.

Kirkwood Community College proposes to construct the Wind Turbine Project on up to two acres of previously disturbed college property north of the College baseball/softball fields and east of the Community Training and Response Center. The proposed Wind Turbine Project would consist of a single 2.5-megawatt wind turbine with a total height of 427 feet above ground level. The Wind Turbine Project would be connected to the local power distribution grid via a new underground electrical cable to existing overhead electrical distribution lines located approximately 2,000 feet northwest of the turbine. No adverse impacts would occur to any residents of the communities in or near the project area, and there would be no adverse and disproportional impacts to minority or low-income populations. Based on the information in the EA, DOE concludes the DOE's Proposed Action to fund Kirkwood Community College's proposed project would have minimal impacts, if any, on visual quality, shadow flicker, noise, and biological resources.

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DOE considered the following resources in more detail as part of the analysis: land use, visual quality, shadow flicker, noise, cultural resources and historic preservation, biological resources, surface water resources, human health and safety, transportation, socioeconomics, air quality, energy, and environmental justice.

With regard to land use, implementation of the proposed Wind Turbine Project would temporarily commit up to two acres of previously disturbed land. Once the wind turbine is constructed, the College would restore both the temporary staging area and the path, where the electrical line would be installed, to existing conditions. The wind turbine foundation and the gravel access road would be the only long-term commitment of ground (approximately one acre), and the College plans to install a fence around the turbine. The general land use of the area is and would continue to be institutional/public since it is part of the College's property. Impacts to land use would be minimal.

With regard to visual resources, although the wind turbine would be a prominent feature in the landscape and one of the tallest structures in Cedar Rapids, the presence of the wind turbine would be consistent with future development in the Iowa City/Cedar Rapids Tech Corridor and would provide a visual landmark for identifying the campus' location and that of surrounding areas of interest. Accordingly, a single wind turbine located within the campus would result in minimal impacts to the area's visual resources.

With regard to shadow flicker, the City of Cedar Rapids has a zoning ordinance that addresses wind energy conservation systems (Ordinance No. 007-11, Chapter 32). The ordinance includes a requirement for shadow flicker, which reads, "The shadow flicker from a Large Wind Energy Conservation System may not exceed 30 hours per year on a residential property." Results of the shadow flicker analysis indicated that the proposed Wind Turbine Project would be in compliance with the ordinance.

With regard to noise, modeling and data collected for the Wind Turbine Project indicates expected wind turbine sounds would meet applicable City of Cedar Rapids, Iowa, Code of Ordinance, Chapter 56; generally would be less than ambient conditions; and would not be audible to most individuals in nearby residences.

With regard to cultural resources, because the site of the proposed Wind Turbine Project is relatively close to Prairie Creek (1.5 miles) and the Cedar River (2 miles), it is likely that American Indians used the area to some extent before the arrival of Europeans. However, the site consists of previously disturbed, maintained grass fields. Site records indicate the absence of archaeological sites within the directly affected area, and the presence of unknown archaeological sites is unlikely. If the College encountered archaeological resources during construction, it is required to immediately cease all ground-disturbing activities, and contact the Iowa State Historic Preservation Office (SHPO) for resolution and further instruction regarding additional studies and/or potential avoidance, minimization, or mitigation measures in accordance with the *National Register of Historic Places*. Cultural resource impacts are expected to be non-existent or minimal.

With regard to biological resources, because the Wind Turbine Project site is in the middle of a college campus and periodically mowed, the only native wildlife commonly found are grassland and urban species. Habitat loss and other direct impacts to biological resources during construction of the wind turbine and associated infrastructure would be minimal. To minimize harm to birds and bats during operation of the wind turbine, ISEO, through the College, must ensure the proposed Wind Turbine Project conforms to the applicable site development and turbine design and operation recommendations in the *Interim Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines* and to the *Wind Energy and Wildlife Resource Management* recommendations provided by the Iowa Department of Natural Resources (DNR). The Wind Turbine Project site is not close to any known bird migration pathways or

areas where birds are highly concentrated, areas or features in the landscape known to attract raptors, or important habitat for bats. It is also distant from any "areas of concern for wind farm sitings" identified by the Iowa DNR. There is no habitat within or near the site of the proposed Wind Turbine Project for any species classified as endangered, threatened, or of special concern by the State of Iowa; therefore, DOE concludes that the proposed Wind Turbine Project would not affect any of those species.

With regard to surface water, neither construction, operation, nor decommissioning of the wind turbine would involve discharges that could contaminate surface water, and it is anticipated there would be no reduction in surface water quality or availability as a result of the Wind Turbine Project. The applicable flood insurance rate map published by the Federal Emergency Management Agency, neither the 100-year nor 500-year flood zones extend into the College campus area where the wind turbine would be located. The proposed Wind Turbine Project, as currently planned by the College, would have no adverse effects on wetlands.

With regard to health and safety, appropriate safety training, precautions, and best management practices would be applied during construction, operation, and decommissioning of the turbine in an effort to reduce or eliminate health and safety issues. No residences are located within the fall zone of the turbine (1.1 times the total turbine height). Based on the extreme rarity of tower collapse or blade throw and because persons would not be located within the fall zone for extended periods of time, the risk to public safety due to such occurrences would be minimal.

With regard to transportation, construction of the wind turbine would involve increased vehicular traffic, including heavy equipment, in the area of the College campus and specifically on Kirkwood Boulevard and Kirkwood North Loop Road. However, with only a single wind turbine involved, construction would be of a relatively short duration (about 2 months) and the workforce small (about 20 workers at any given time). Decommissioning of the wind turbine would require equipment similar to that present during construction and would be expected to result in similar minor and temporary transportation impacts.

With regard to socioeconomics, the construction of the proposed Wind Turbine Project is expected to generate a short-term and small increase in employment due to temporary construction-related jobs for the wind turbine. A local engineering firm would be responsible for the design work, specification, and supervision work. The College would use its existing personnel and may hire a small number of contractors for the foundation and installation work. The equipment vendor would perform final checks and bring the turbine into operation. New permanent direct or indirect jobs would be unlikely, since existing operations will add operational responsibilities to existing staff. Operation of the wind turbine would be unlikely to create direct jobs

With regard to air quality, the proposed Wind Turbine Project would be an emissions-free energy generation project that would not degrade air quality. The proposed Wind Turbine Project would reduce the reliance on fossil fuel-generated electricity and reduce the College's carbon footprint by approximately 11,970,000 pounds, or close to 6,000 tons of carbon dioxide, per year.

With regard to energy, the proposed Wind Turbine Project would involve a peak electrical power production capability of 2.5 megawatts. Portions of this power not used by the College would be sent to the electrical grid. The power production would be a very small component of the loads at the regional and state levels. The Wind Turbine Project would have a very minor positive impact on the electricity generating capacity of the region.

With regard to environmental justice, no potential for adverse impacts to human health or environmental effects have been identified as part of the proposed project. Therefore, there would be no

disproportionately high and adverse socioeconomic- or environmental justice-related impacts on minority populations and low-income populations.

PUBLIC PARTICIPATION IN THE EA PROCESS: In accordance with applicable regulations and policies, DOE sent scoping letters to potentially interested local, State, and Federal agencies, including the Governor of Iowa, the Iowa SHPO, U.S. Fish and Wildlife Service (USFWS), the U.S. Army Corps of Engineers (USACE), Federal Emergency Management Agency Region 7, and to representatives of the Sac and Fox Tribe of the Mississippi in the State of Iowa. DOE also sent scoping letters to other potentially interested individuals and organizations to solicit public comment, published the scoping letter on DOE's Golden Field Office's Public Reading Room, and advertised the scoping comment period from October 13 to November 15, 2010, in the *Cedar Rapids Gazette*. The scoping letter described DOE's Proposed Action and requested assistance in identifying potential issues to be evaluated in the EA.

In response to the scoping letter, DOE received two comments. Those comments, which are included in Appendix A of the Final EA, were from the Iowa DNR and Iowa State Archaeologist. For both, DOE and the College are following the guidance provided, which is normal compliance with regulations.

The College also conducted a public meeting on December 7, 2010, to discuss the College's proposal to construct and operate a wind turbine in the College's main campus in Cedar Rapids, Iowa. Meeting notification was sent to 1,700 residents in the area, email notification was sent to local, State, and Federal agencies with potential interest, and a meeting notice was published in the *Cedar Rapids Gazette*. The meeting was conducted and five individuals attended. No written comments were received.

The following consultations that were conducted:

- Iowa SHPO - A "Request for SHPO Comment" form and supporting documentation was hand-carried to the Iowa SHPO on August 10, 2010, requesting information on historic properties within and near the proposed site. The form also contained a certification that no historic properties would be affected by the proposed Wind Turbine Project. In a letter dated August 24, 2010, the Iowa SHPO concurred that the Wind Turbine Project would have no adverse effects on historic properties.

- USFWS - Representatives of the College corresponded with the USFWS and received a letter dated August 24, 2010, in which USFWS concurred that the proposed Wind Turbine Project would be located in an area that has no suitable habitat for the federally listed prairie bush clover (*Lespedeza leptostachya*) or western prairie fringed orchid (*Platanthera praeclara*) and would have no effect on these species. USFWS noted that the federally listed endangered Indiana bat (*Myotis sodalist*) does not occur in Linn County, but could migrate through the area and that the placement of the turbine is not adjacent to any migratory areas, refuges, major flyways, or known avian nesting areas. The College would monitor the wind turbine for impacts to birds and bats and would notify DOE and USFWS if operation of the wind turbine resulted in mortality of these species.

- USACE - On July 2, 2010, the College sent a request for a wetlands determination to the USACE. The College received a response from USACE dated July 14, 2010, which stated that the proposed Wind Turbine Project property does not contain any wetland areas or other waters of the United States and that Department of Army authorization is not required.

- Federal Aviation Administration - On April 20, 2010, the Federal Aviation Administration issued a "Determination of No Hazard to Air Navigation" to the College. Determination is for the 427-foot wind turbine to be located at the proposed Wind Turbine Project site.

DOE issued the Draft EA for comment on April 16, 2011, and posted it on the DOE Golden Field Office Reading Room Website and DOE NEPA Website. DOE sent postcards to interested individuals to notify them of the EA's availability on the web and to announce a 15-day public comment period on the Draft EA. A Notice of Availability was published in the local paper, *Cedar Rapids Gazette*. The comment period ended on April 21, 2011. DOE received no comments on the Draft EA.

DETERMINATION: Based on the information DOE presented in the Final EA (DOE/EA-1859), DOE determined that providing Federal funding to purchase equipment for one 2.5-megawatt wind turbine for the Kirkwood Community College would not constitute a major Federal action that significantly affects the quality of the human environment in the context of NEPA. Therefore, the preparation of an environmental impact statement is not required, and DOE is issuing this FONSI.

The College's commitment to obtain and comply with all appropriate Federal, State, and local permits necessary for construction and operation of the Wind Turbine Project, and to avoid or minimize potential impacts through the implementation of the applicant-committed measures, detailed in the EA, shall be incorporated and enforceable through DOE's financial assistance agreement.

The Final EA is available at http://www.eere.energy.gov/golden/Reading_Room.aspx.

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